

25L6-GT—12L6-GT—50L6-GT

BEAM PENTODE

For AF Power Amplifier Applications

DESCRIPTION AND RATING

The 25L6-GT is a beam pentode designed for use in the audio-frequency power output stage of radio and television receivers. Features include high power sensitivity and high efficiency at relatively low plate and screen voltages.

The 12L6-GT, 25L6-GT, and 50L6-GT are alike except for heater ratings and heater-cathode voltage ratings. The 50L6-GT is particularly suited for use in a-c/d-c receivers; while the 12L6-GT, as a result of its controlled heater warm-up characteristic, is especially suited for use in television receivers which employ series-connected heaters. When the 12L6-GT is used in conjunction with other 600-milliampere types which exhibit essentially the same heater warm-up characteristic, heater voltage surges across the individual tubes are minimized during the warm-up period.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

	12L6-GT	25L6-GT	50L6-GT	
Heater Voltage, AC or DC	12.6	25.0	50.0	Volts
Heater Current	0.6	0.3	0.15	Amperes
Heater Warm-up Time*	10.5	——	——	Seconds

MECHANICAL

Mounting Position—Any
Envelope—T-9, Glass
□ Base—B6-81 or B7-7, Intermediate Shell Octal or B6-84 or B7-59, Short Intermediate Shell Octal

MAXIMUM RATINGS

DESIGN-CENTER VALUES

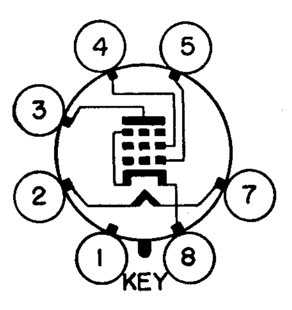
Plate Voltage	200	Volts
Screen Voltage	125	Volts
Plate Dissipation	10	Watts
Screen Dissipation	1.25	Watts

	12L6-GT	25L6-GT	50L6-GT	
Heater-Cathode Voltage				
Heater Positive with Respect to Cathode				
DC Component	100		——	Volts
Total DC and Peak	200		90	Volts
Heater Negative with Respect to Cathode				
Total DC and Peak	300		90	Volts
Grid Circuit Resistance				
With Fixed Bias	0.1		0.1	Megohms
With Cathode Bias	0.5		0.5	Megohms



Supersedes ET-T400A dated 6-50 and ET-T413A dated 1-50

BASING DIAGRAM

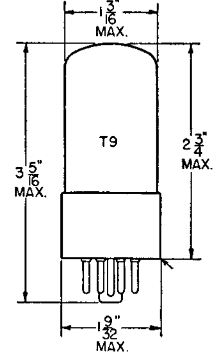


RETMA 7AC

TERMINAL CONNECTIONS

Pin 1—No Connection†
Pin 2—Heater
Pin 3—Plate
Pin 4—Grid Number 2 (Screen)
Pin 5—Grid Number 1
Pin 7—Heater
Pin 8—Cathode and Beam Plates

PHYSICAL DIMENSIONS



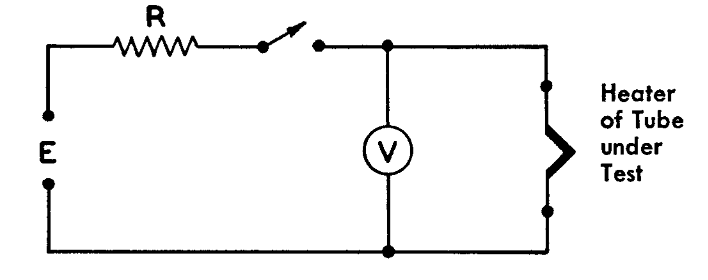
RETMA 9-11 or 9-41

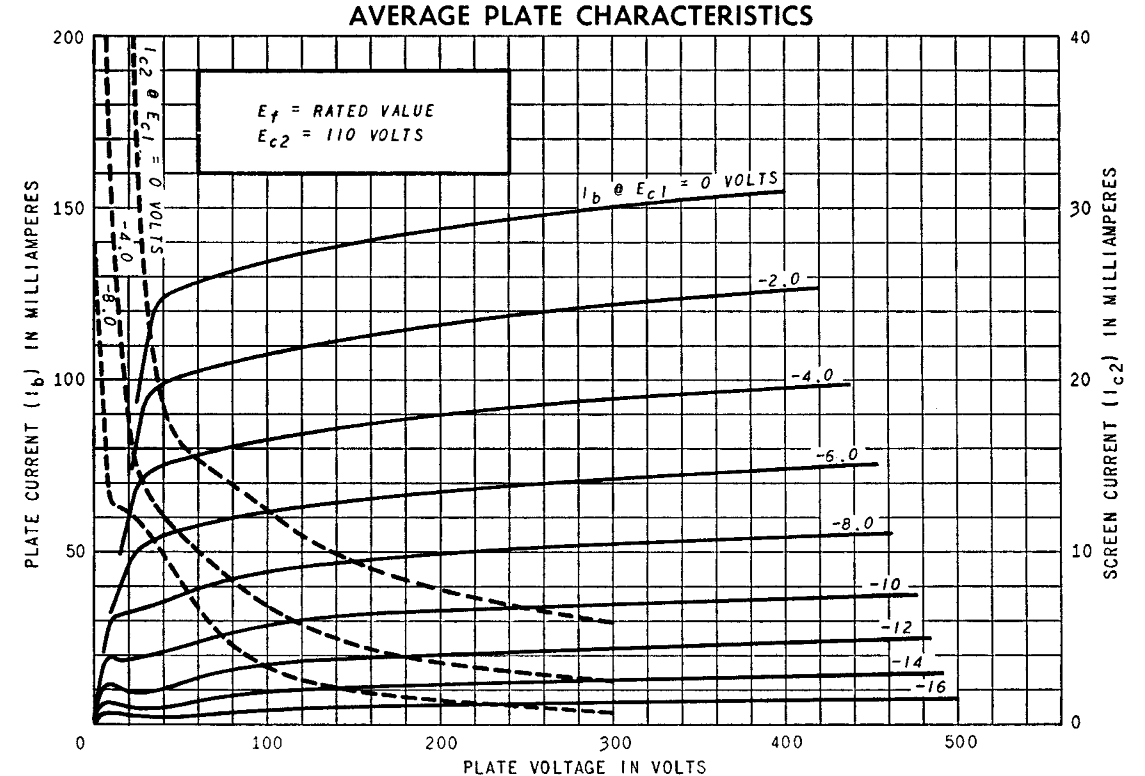
CHARACTERISTICS AND TYPICAL OPERATION

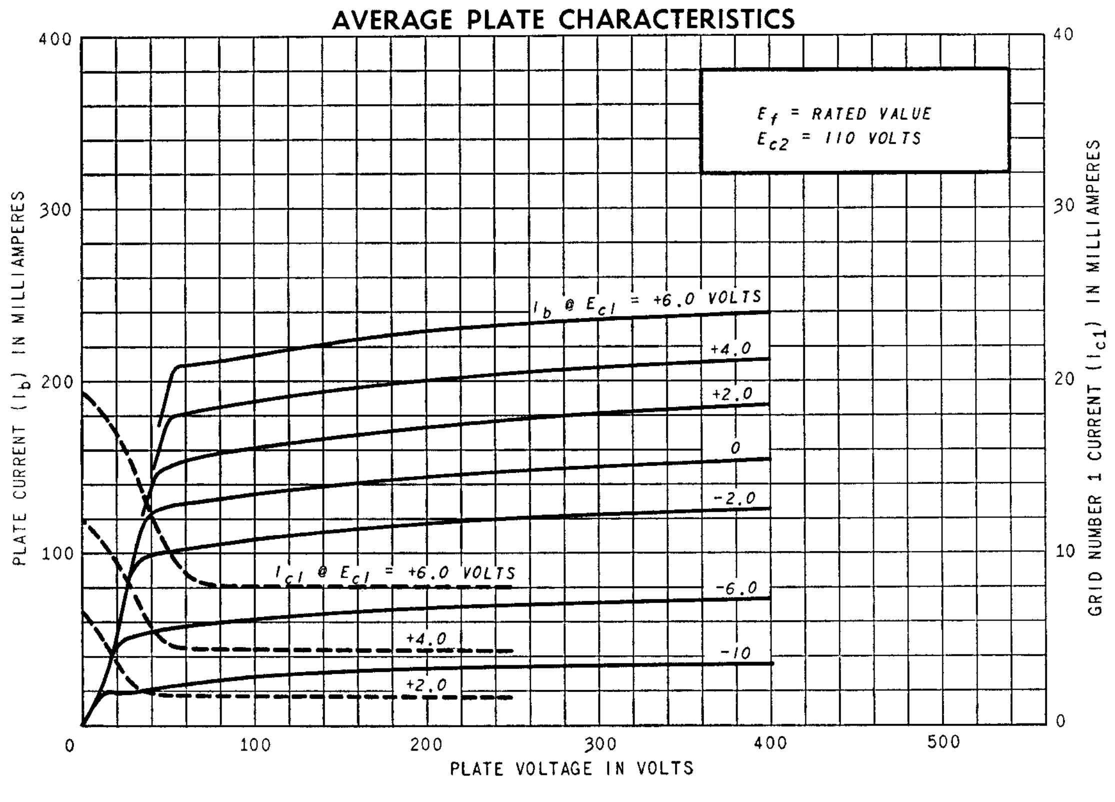
CLASS A_1 AMPLIFIER

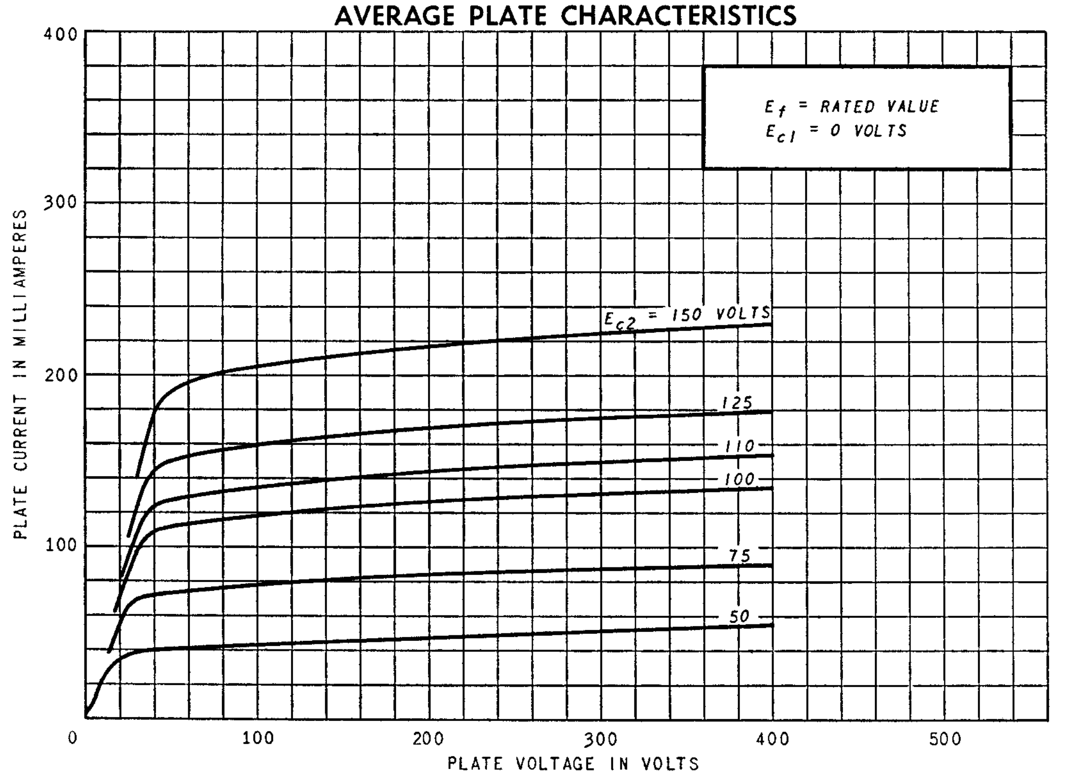
Plate Voltage	110	200	Volts
Screen Voltage	110	125	Volts
Grid-Number 1 Voltage	−7.5	—	Volts
Cathode-Bias Resistor	—	180	Ohms
Peak AF Grid-Number 1 Voltage	7.5	8.5	Volts
Plate Resistance, approximate	13000	28000	Ohms
Transconductance	8000	8000	Micromhos
Zero-Signal Plate Current	49	46	Milliamperes
Maximum-Signal Plate Current	50	47	Milliamperes
Zero-Signal Screen Current	4.0	2.2	Milliamperes
Maximum-Signal Screen Current	10	8.5	Milliamperes
Load Resistance	2000	4000	Ohms
Total Harmonic Distortion, approximate	10	10	Percent
Maximum-Signal Power Output	2.1	3.8	Watts

* Heater warm-up time is defined as the time required in the circuit shown at the right for the voltage across the heater terminals to increase from zero to the heater test voltage (V_1). For this type, E=50 volts (RMS or DC), V_1=10.0 volts (RMS or DC), and R=63 ohms.
□ † Pin 1 omitted on bases B6=81 and B6=84.
□ Indicates an additional rating.

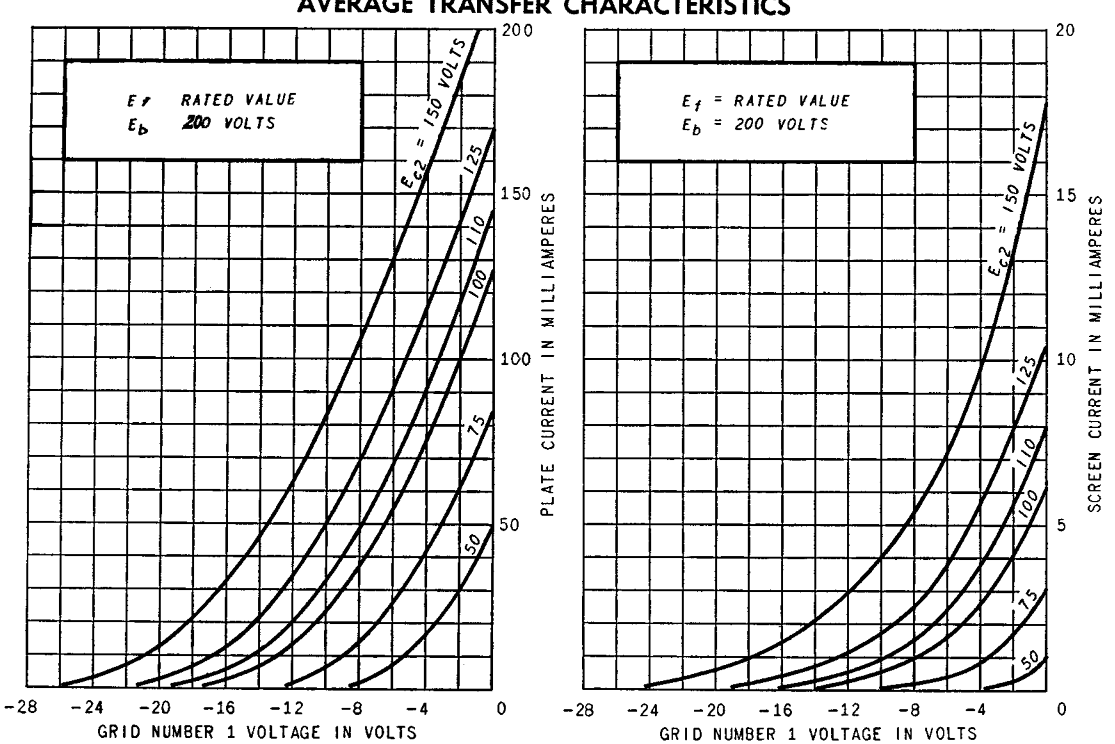




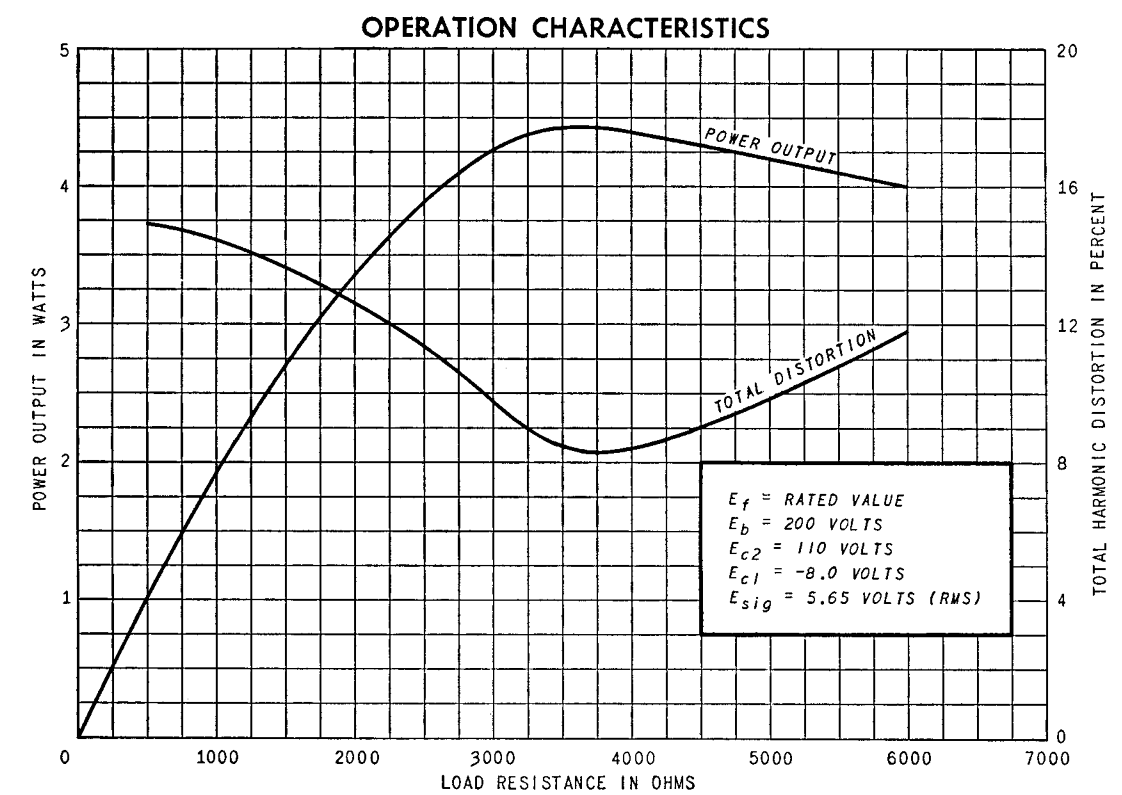

AVERAGE PLATE CHARACTERISTICS
E_f = RATED VALUE
E_{c2} = 110 VOLTS
I_b @ E_{c1} = +6.0 VOLTS
+4.0
+2.0
0
-2.0
I_{c1} @ E_{c1} = +6.0 VOLTS
-6.0
+4.0
-10
+2.0
PLATE CURRENT (I_b) IN MILLIAMPERES
GRID NUMBER 1 CURRENT (I_{c1}) IN MILLIAMPERES
PLATE VOLTAGE IN VOLTS
0
100
200
300
400
500
10
20
30
40


AVERAGE PLATE CHARACTERISTICS
E_f = RATED VALUE
E_{c1} = 0 VOLTS
E_{c2} = 150 VOLTS
125
110
100
75
50
PLATE CURRENT IN MILLIAMPERES
PLATE VOLTAGE IN VOLTS
0
100
200
300
400
500

AVERAGE TRANSFER CHARACTERISTICS



OPERATION CHARACTERISTICS



TUBE DEPARTMENT



Schenectady 5, N. Y.

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